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| APPLICATION NO.   | FILING DATE   | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---------------|----------------------|---------------------|------------------|
| 09/844,413  | 04/27/2001    | Brett W. Emsley      | 6573-68375          | 1376             |
| 23643   | 7590          | 05/11/2007           | EXAMINER            |                  |
| BARNES & THORNBURG LLP<br>11 SOUTH MERIDIAN<br>INDIANAPOLIS, IN 46204 |               |                      | USTARIS, JOSEPH G   |                  |
| ART UNIT  | PAPER NUMBER  |                      |                     |                  |
|   | 2623          |                      |                     |                  |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 09/844,413             | EMSLEY ET AL.       |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | Joseph G. Ustaris      | 2623                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 31 January 2007.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 62-77 is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 62-77 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 27 April 2001 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_
- 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_\_
- 5) Notice of Informal Patent Application
- 6) Other: \_\_\_\_\_

**DETAILED ACTION**

***Response to Amendment***

1. This action is response to the amendment dated January 31, 2007 in application 09/844,413.

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on January 31, 2007 has been entered.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 62-64 and 69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shi et al. (US006310646B1) in view of Braun et al. (4,685,065).

Regarding claim 62, Shi et al. (Shi) discloses an instrument for testing a CATV network (See Fig. 1, 10), the instrument including a microcomputer for controlling the instrument (See Figs. 3 and 4, 16), a memory coupled to the microcomputer (See Fig. 4, 153), a keypad user interface coupled to the microcomputer (See Figs. 3 and 4, 18),

a DSP coupled to the microcomputer to be controlled thereby (See Figs. 3 and 4, 16), an RF section (See Fig. 3, 22 and 24), an A/D converter coupled to the RF section and to the DSP (See Fig. 3, 14). However, Shi does not disclose an audio transducer coupled to the microcomputer and to the DSP.

Braun et al. (Braun) discloses an instrument for testing a CATV network (See Figs. 1a and 1b). Braun discloses the use of an audio transducer that is coupled to the microcomputer (See Figs 1a and 1b, microprocessor 28 and Speaker). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the testing instrument disclosed by Shi to include an audio transducer coupled to the microcomputer, as taught by Braun, in order to enhance the interaction between the instrument and operator by providing an easy-to-use testing instrument (See col. 1 lines 30-50). Furthermore, the audio transducer is connected to the microcomputer and DSP as shown in Shi Fig. 3.

Regarding claim 63, the instrument further includes a temperature sensor coupled to the microcomputer (See Braun col. 6 lines 35-52 and col. 8 lines 30-45).

Regarding claim 64, the instrument further includes a display controller (e.g. DSP/controller 16 serves the function of the display controller) and a display coupled to the microcomputer (See Shi Figs. 3 and 4, 16 and 20).

Regarding claim 69, the instrument further includes a second memory coupled to a port of the microcomputer (See Shi Fig. 4, 152).

Claims 65 and 68 rejected under 35 U.S.C. 103(a) as being unpatentable over Shi et al. (US006310646B1) in view of Braun et al. (4,685,065) as applied to claims 62-64 and 69 above, and further in view of Budinger et al. (US006802032B1).

Regarding claim 65, Shi in view of Braun does not disclose an RS-232 port coupled to the microcomputer.

Budinger et al. (Budinger) discloses an instrument for testing a CATV network (See Fig. 1, 50B). Budinger discloses that the instrument includes an RS-232 port coupled to the microcomputer (e.g. of the PDA) (See Fig. 2b). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the testing instrument disclosed by Shi in view of Braun to include an RS-232 port coupled to the microcomputer, as taught by Budinger, in order to provide a more convenient method of connecting to network equipment for performing testing (See col. 2 lines 61-63).

Regarding claim 68, the instrument further includes a port adapted to be coupled to an Ethernet interface (e.g. LAN port) (See Budinger col. 3 lines 35-47 and col. 7 lines 8-20).

Claim 66 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shi et al. (US006310646B1) in view of Braun et al. (4,685,065) and Budinger et al. (US006802032B1) as applied to claims 65 and 68 above, and further in view of Ray (US005380994A).

Regarding claim 66, Shi in view of Braun and Budinger does not disclose a bar code scanner adapted to be coupled to the RS-232 port to enter scanned bar codes through the instrument to CATV network.

Ray discloses a portable microcomputer system (See Fig. 2). Ray discloses that the system includes a bar code scanner adapted to be coupled to the RS-232 port to enter scanned bar codes through the instrument to a network (See col. 4 lines 49-60 and col. 6 lines 60-68). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the testing instrument disclosed by Shi in view of Braun and Budinger to include a bar code scanner adapted to be coupled to the RS-232 port to enter scanned bar codes through the instrument to CATV network, as taught by Ray, in order to expand the capabilities of the instrument by providing another input means that is compatible with the keyboard/keypad (See col. 2 lines 13-17 and col. 4 lines 57-60).

Claim 67 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shi et al. (US006310646B1) in view of Braun et al. (4,685,065) as applied to claims 62-64 and 69 above, and further in view of Budinger et al. (US006802032B1) and Valliani et al. (US006234389B1).

Regarding claim 67, Shi in view of Braun does not disclose a signature pad coupled to the microcomputer.

Budinger discloses an instrument for testing a CATV network (See Fig. 1, 50B). Budinger discloses that the instrument takes the form of a PDA (See Fig. 3A).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the testing instrument disclosed by Shi in view of Braun to take the form of a PDA, as taught by Budinger, in order to provide a smaller, more convenient and practical equipment for performing testing (See col. 2 lines 43-52).

Valliani et al. (Valliani) discloses a handheld computer or PDA (See Fig. 6). Valliani discloses that the PDA has an additional module attached to the PDA to accept signatures on a signature pad coupled to the microcomputer (See Fig. 6; col. 7 lines 30-48). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the testing instrument disclosed by Shi in view of Braun to include a signature pad coupled to the microcomputer, as taught by Valliani, in order to expand the functions of the PDA to perform specific functions (See col. 2 lines 31-39).

Claim 70 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shi et al. (US006310646B1) in view of Braun et al. (4,685,065) as applied to claims 62-64 and 69 above, and further in view of Shahar et al. (US006112232A).

Regarding claim 70, Shi in view of Braun does not disclose a direct digital synthesizer (DDS) coupled to the DSP to be controlled thereby, the DDS adapted to generate RF oscillations at an output port of the instrument.

Shahar et al. (Shahar) discloses an instrument for CATV networks. Shahar discloses that the device includes a DDS, the DDS adapted to generate RF oscillations at an output port of the instrument (See Fig. 2; col. 8 lines 42-56). Therefore, it would

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have been obvious to one of ordinary skill in the art at the time the invention was made to modify the instrument disclosed by Shi in view of Braun to include a DDS, the DDS adapted to generate RF oscillations at an output port of the instrument, as taught by Shahar, in order to provide a more control over the transmission level to compensate for variable conditions within the CATV network (See col. 8 lines 57-67). Furthermore, the DDS is connected to the microcomputer and DSP as shown in Shi Fig. 3.

Claim 71 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shi et al. (US006310646B1) in view of Braun et al. (4,685,065) as applied to claims 62-64 and 69 above, and further in view of Zimmerman (US005777662A).

Regarding claim 71, Shi in view of Braun does not disclose that the instrument is adapted to be queried via the CATV network, and when queried to respond by transmitting on the CATV network.

Zimmerman discloses an instrument for testing a CATV network (See Fig. 1). Zimmerman discloses that the instrument is adapted to be queried (e.g. the noise from the cable network 19) via the CATV network, and when queried to respond by transmitting on the CATV network (e.g. information send to the headend) (See Figs. 3 and 4; col. 4 lines 12-55). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the instrument disclosed by Shi in view of Braun to be queried via the CATV network, and when queried to respond by transmitting on the CATV network, as taught by Zimmerman, in order to provide an enhanced system of finding cable faults with a coordinate (See col. 2 lines 31-42).

Claims 72 and 73 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shi et al. (US006310646B1) in view of Braun et al. (4,685,065) and Zimmerman (US005777662A) as applied to claim 71 above, and further in view of Borseth (US007042526B1).

Regarding claim 72, Shi in view of Braun and Zimmerman discloses that the system responds by transmitting at a queried frequency (e.g. 5-50 MHz) (See Zimmerman col. 4 lines 12-55). However, Shi in view of Braun and Zimmerman does not disclose transmitting with plus some offset.

Borseth discloses a system for transmitting on CATV networks. Borseth discloses that the system transmits with plus some offset (See col. 11 lines 60-67). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the instrument disclosed by Shi in view of Braun and Zimmerman to transmit at the queried frequency plus some offset, as taught by Borseth, in order to avoid interference between multiple transmitters (See col. 11 lines 60-67).

Regarding claim 73, the instrument is adapted to respond by transmitting at the queried frequency (e.g. 5-50 MHz) plus multiple frequencies offset from the queried frequency to permit multiple instruments to respond to the query simultaneously (See Borseth col. 11 lines 60-67).

Claims 74, 76, and 77 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shi et al. (US006310646B1) in view of Braun et al. (4,685,065) and

Zimmerman (US005777662A) as applied to claim 71 above, and further in view of Vogel et al. (US007089580B1).

Regarding claim 74, Shi in view of Braun and Zimmerman does not disclose that the instrument is adapted to respond by transmitting first at a relatively lower amplitude; and then to increase the amplitude of its transmission a predetermined amount above the relatively lower amplitude upon receipt of a signal indicating that its relatively lower response is below a minimum accepted amplitude.

Vogel et al. (Vogel) discloses a system for communicating over a CATV network. Vogel discloses that the system respond by transmitting first at a relatively lower amplitude (e.g. the first lowest power level or minimum specified transmit level); and then to increase the amplitude of its transmission a predetermined amount above the relatively lower amplitude upon receipt of a signal indicating that its relatively lower response is below a minimum accepted amplitude (e.g. the system sends a Delta value down which is added to the initial transmit level) (See Fig. 12; col. 18 lines 39-63). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the instrument disclosed by Shi in view of Braun and Zimmerman to respond by transmitting first at a relatively lower amplitude; and then to increase the amplitude of its transmission a predetermined amount above the relatively lower amplitude upon receipt of a signal indicating that its relatively lower response is below a minimum accepted amplitude, as taught by Vogel, in order to reduce the amount of time it takes the system to find the optimum signal level (See col. 1 lines 54-64).

Regarding claim 76, the instrument is adapted to respond first at a relatively lower amplitude (e.g. the first lowest power level or minimum specified transmit level); and then to increase the amplitude of its response to an amplitude calculated to place the received amplitude from the instrument within a window of acceptable amplitude (e.g. the system calculates and sends a Delta value down which is added to the initial transmit level that will place the power level within a window of acceptable amplitude) (See Fig. 12; col. 18 lines 39-63).

Regarding claim 77, as discussed above it is shown that the instrument disclosed by Shi in view of Braun, Zimmerman, and Vogel can adjust the power level of the signal. Therefore the instrument is adapted to, after responding first at a relatively lower amplitude and after raising the amplitude of its transmission above the relatively lower amplitude and receiving a signal that the amplitude of its response is within the window of acceptable amplitude, to lower the amplitude of its response and to await confirmation that the received signal displays the same lower amplitude signal level, and then to return the amplitude of its transmission to the window of acceptable amplitude (See MPEP 2111.04).

Claim 75 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shi et al. (US006310646B1) in view of Braun et al. (4,685,065), Zimmerman (US005777662A), and Borseth (US007042526B1) as applied to claims 72 and 73 above, and further in view of Vogel et al. (US007089580B1).

Regarding claim 75, Shi in view of Braun, Zimmerman, and Borseth does not disclose that after responding first at a relatively lower amplitude and after continuing to increase the amplitude of its transmission in increments above the relatively lower amplitude until it receives a signal that the amplitude of its response is a minimum acceptable amplitude, to then lower the amplitude of its response and to await confirmation that the lower amplitude signal was received; and then to return its transmitted signal amplitude to the minimum acceptable amplitude.

Vogel et al. (Vogel) discloses a system for communicating over a CATV network. Vogel discloses that the system is able to adjust the power level of the signal (See Fig. 12; col. 18 lines 39-63). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the instrument disclosed by Shi in view of Braun, Zimmerman, and Borseth to adjust the power level of the signal, as taught by Vogel, in order to reduce the amount of time it takes the system to find the optimum signal level (See col. 1 lines 54-64).

Furthermore, it is shown above that the instrument can adjust the power level of the signal. Therefore the instrument is adapted to, after responding first at a relatively lower amplitude and after continuing to increase the amplitude of its transmission in increments above the relatively lower amplitude until it receives a signal that the amplitude of its response is a minimum acceptable amplitude, to then lower the amplitude of its response and to await confirmation that the lower amplitude signal was received, and then to return its transmitted signal amplitude to the minimum acceptable amplitude (See MPEP 2111.04).

***Response to Arguments***

3. Applicant canceled claims 1-61. Therefore, the previous rejection has been withdrawn. A new ground(s) of rejection is made above.

***Conclusion***

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph G. Ustaris whose telephone number is 571-272-7383. The examiner can normally be reached on M-F 7:30-5 PM; Alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher S. Kelley can be reached on 571-272-7331. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JGU

May 7, 2007

*hfb*  
SCOTT E. BELIVEAU  
PRIMARY PATENT EXAMINER